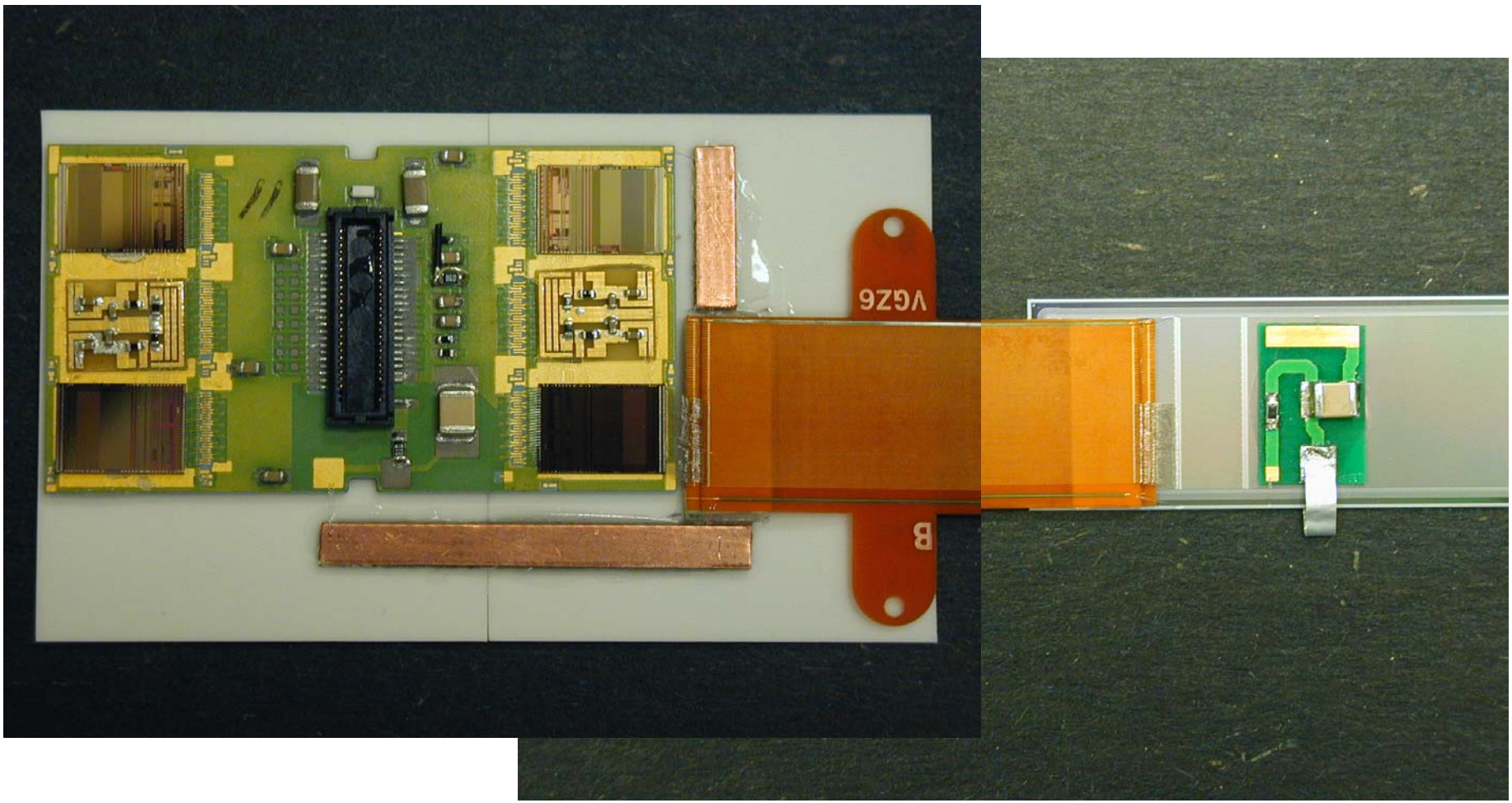
Layer 0 prototype

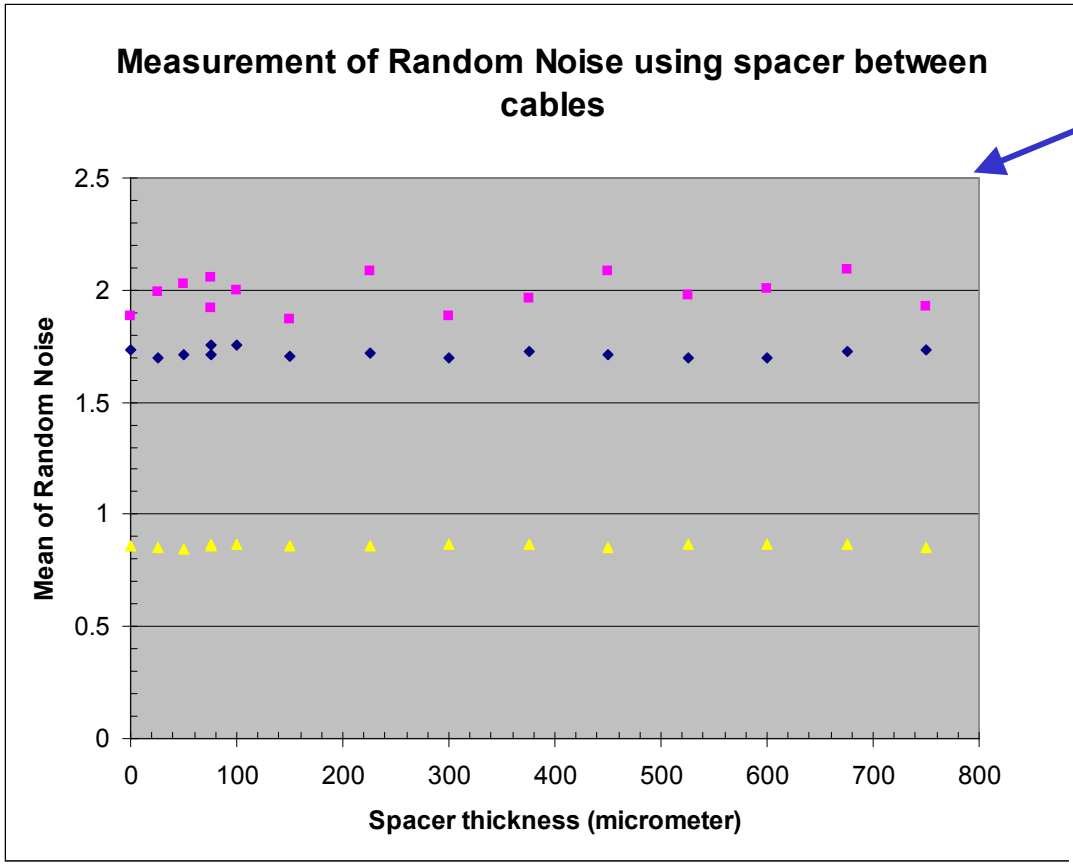
Kazu Hanagaki/Fermilab



Things to do

- Readout by SVX4 with analog cable for the first time.
- Dependence on the thickness of spacer between the two cables.
- Dependence on the distance from the cable to shielding material.
- Frequency dependence on external RF source.
- Prototyping of L0 module. ← hybrid???
  Proof of effectiveness of proposed grounding (Marvin, Breese,…) and shielding scheme.
  - ❑ nothing more = baseline.
  - ❑ external RF source.
  - ❑ floating metal (there should not be, but if it exists…)

Noise dependence on the spacer thickness



Roy Prabir's measurement.

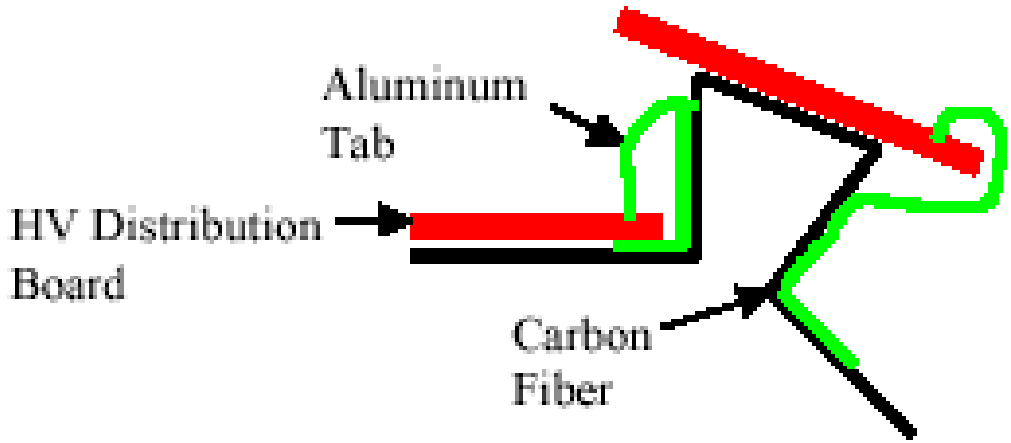
200µm thick spacer	C (pF/cm)
Single cable	0.339
e_r =1.0	0.342
e_r = 2.0	0.466
e_r = 3.0	0.585

Spacer is Kapton (e_r = 3.5)

➔ Confirms Russell's result.
- wrong calculation???
- gain(#electrons/ADC count) varies on the capacitive load??? ➔ capacitance measurement & recalculation.

Prototyping of module

- Sensor --- 6(x2?)
- Cable --- 2x6(x2?)
- Hybrid???
- CF fixture



- Area of the aluminum piece contacting with the CF.